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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,479	07/18/2001	Gregory Rose	10559-450001 / P10767	1628
20985	7590	03/17/2005	EXAMINER CAO, CHUN	
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			ART UNIT 2115	PAPER NUMBER

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/910,479		ROSE ET AL.	
	Examiner		Art Unit	
	Chun Cao		2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-27 are presented for examination. Claims 24-27 are newly added claims.
2. The text of those applicable section of Title 35, U.S. Code not included in this action can be found in the prior Office Action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the state of the external signal line" in line 3. There is insufficient antecedent basis for those limitations in the claim.

Claims 2-8 are rejected because they incorporate the deficiencies of claim 1.

Claim 9 recites the limitation "the state of an external signal line" in line 1. There is insufficient antecedent basis for those limitations in the claim.

Claims 10-16 are rejected because they incorporate the deficiencies of claim 9.

Claim 17 recites the limitation "the state of an external signal line" in line 5. There is insufficient antecedent basis for those limitations in the claim.

Claims 18-23 are rejected because they incorporate the deficiencies of claim 17.

5. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bland et al. (Bland), U.S. patent no. 5,517,650 in view of Bacigalupo (Bacigalupo), US patent no. 6,448,812.

Bland and Bacigalupo are prior art references cited in prior office action.

As per claim 1, Bland discloses a circuit [fig. 4] comprising:

a PAD signal line connectable to an external signal line [fig. 5, col. 6, line 62-col. 7, line 2] ;

a keeper stage to hold the PAD signal line in a weakly held state responsive to changes in a state of the external signal line [col. 7, lines 3-15].

Bland does not explicitly disclose a keeper stage to hold the PAD signal line in a weakly held state responsive to changes in a state of the external signal line that occur after a power down.

Bacigalupo discloses a keeper stage to hold the PAD signal line in a weakly held state responsive to changes in a state of the external signal line that occur after a power down [fig. 2; col. 4, lines 31-col. 5, line 26; col. 5, lines 46-56]. It would have been obvious to one of ordinary skill in the art at time the invention to combine the teachings of Bland and Bacigalupo because they are both directed to power management system, and the specify teachings of Bacigalupo stated above by having weak pull-up and pull-down devices to held a signal line in a weakly held state would increase the power consumption of Bland system by being capable of controlling power management system.

As per claim 2, Bland discloses that the weakly held state is the last in time state of the external signal line [col. 7, lines 12-14].

As per claim 3, Bacigalupo discloses that the keeper stage comprises at least one controllable weak pull-up device and at least one controllable weak pull-down device [fig. 2, col. 3, lines 51-61; col. 4, lines 18-20].

As per claim 4, Bacigalupo discloses that circuitry configured to disable the at least one weak pull-down device if the weak-pull up device is enabled and to disable the at least one weak pull-up device if the weak pull-down device becomes enabled [col. 3, lines 62-67; col. 4, line 45-col. 5, line 11].

As per claim 5, inherently, Bacigalupo discloses the control of the at least one controllable weak pull-up device comprises a logical NAND of a SLEEP signal and the PAD signal and the control of the at least one controllable weak pull-down device comprises a logical NOR of an inverted SLEEP signal and the PAD signal [col. 5, lines 27-61].

As per claim 6, Bland discloses that a controllable output buffer stage which is able to drive the state of the PAD signal and having circuitry to enable and disable the output buffer stage based upon the state of an ENABLE signal [col. 6, lines 52-61].

As per claim 7, Bland discloses that a SLEEP signal which can enable and disable the keeper stage [col. 7, lines 3-15]. Bacigalupo discloses that a SLEEP signal which can enable and disable the keeper stage [col. 4, lines 18-29].

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As per claim 8, Bacigalupo discloses of controlling the at least one weak pull-up and the at least one weak pull-down device based upon the state of the SLEEP signal [col. 3, lines 62-67; col. 4, line 45-col. 5, line 11].

As to claims 9-15, Bland and Bacigalupo disclose the corresponding elements in claims 1-8, which are carried out the method of operating steps in claims 9-15.

Accordingly, claims 9-15 are rejected for the same reason as set for claims 1-8.

As per claim 16, Bacigalupo teaches that the controllable weak pull-up device and the controllable weak pull-down device are square devices [col. 3, lines 53-54].

As to claims 17-20 and 23 are written in mean plus function and contained the same limitations as claims 1-8. Therefore, same rejection is applied.

As per claim 21, Bland discloses that the circuitry is implemented in an integrated circuit [figs. 2, 4]. Bacigalupo discloses that the circuitry is implemented in an integrated circuit [fig. 2]

As per claim 22, Bacigalupo discloses that the controllable weak pull-up device and the controllable weak pull-down device are square devices [col. 3, lines 53-54].

As to claims 24-27 are written in mean plus function and contained the same limitations as claims 1-8. Therefore, same rejection is applied.

6. Applicant's arguments filed on 1/12/2005 have been fully considered but are not persuasive.

7. In the remarks, applicant argued in substance that the cited references do not teach or suggest a keeper stage to hold the PAD signal line in a weakly held state

responsive to changes in a state of the external signal line that occur after a power down.

The examiner respectfully submits that applicant's position is not persuasive. Bacigalupo discloses a keeper stage to hold the PAD signal line in a weakly held state responsive to changes in a state of the external signal line that occur after a power down [fig. 2; col. 4, lines 31-col. 5, line 26; col. 5, lines 46-56].

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP ' 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun Cao whose telephone number is 571-272-3664. The examiner can normally be reached on Monday-Friday from 7:30 am-4:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Chun Cao

Mar. 9, 2005